

The invention claimed is:

1. A support comprising:  
a support member having a width; and  
at least one molded wood flake flexible spring which is narrower than said width of said support member, said flexible spring including a free end and a joined end, said joined end being integrally formed with said support member, wherein said flexible spring can flex independently from said support member.
2. The support as defined in claim 1 wherein said support member and flexible spring are integrally fabricated substantially of wood flakes.
3. The support as defined in claim 1 wherein said spring is made of wood flakes which have an average length of from about 1.25 inches to about 6 inches, an average thickness of from about 0.005 inches to about 0.075 inches, and an average width from about 3.0 inches or less.
4. The support as defined in claim 3 wherein said wood flakes have an average length of from about 2 inches to about 3 inches.
5. The support as defined in claim 3 wherein said wood flakes have an average thickness of from about 0.015 inches to about 0.030 inches.
6. The support as defined in claim 3 wherein said wood flakes have an average width of from about 0.25 inches to about 1.0 inch, and have a width less than the average length of said wood flakes.
7. The support as defined in claim 1 wherein said support member includes a plurality of spaced-apart molded wood flake flexible springs.
8. The support as defined in claim 1 wherein said molded wood flake flexible spring has a thickness of from about 3/8 inch to about 5/8 inch.

9. The support as defined in 8 wherein said molded wood flake flexible spring has a width of about 2 inches.
10. The support as defined in claim 1 wherein said at least one molded wood flake flexible spring is defined by a U-shaped channel formed in said support member.
11. The support as defined in claim 1 wherein said support member includes an edge and said free end of said at least one molded wood flake flexible spring is disposed in spaced relationship to said edge.
12. The support as defined in claim 1 wherein said support member comprises a seat and said at least one molded wood flake flexible spring is disposed within said seat.
13. The support as defined in claim 1 wherein said support comprises a seat including a back and said at least one molded wood flake flexible spring is disposed within said back of said seat.
14. The support as defined in claim 13 wherein said back includes a seat facing side and said at least one molded wood flake flexible spring extends outwardly from said seat facing side of said back.
15. The support as defined in claim 1 wherein said support member includes at least one channel disposed therein, said at least one channel defining said at least one molded wood flake flexible spring and said at least one channel is integrally molded within said support member.
16. A molded wood flake support for a seating article which at least partially supports a user seated thereon, said molded wood flake support comprising:  
a base section molded of binder coated wood flakes, said base section including a frame section and an integral seating section formed at an angle to said frame section;  
and

said seating section including at least one molded wood flake flexible spring including a free end and a joined end integrally formed with said frame section, wherein said flexible spring can flex independently from said frame section.

17. The molded wood flake support as defined in claim 16 wherein said support is fabricated substantially of wood flakes.

18. The molded wood flake support as defined in claim 17 wherein said angle is about 90°.

19. The molded wood flake support as defined in claim 17 wherein said seating section includes a plurality of spaced-apart molded wood flake springs.

20. The molded wood flake support as defined in claim 19 wherein said wood flake springs are defined by a channel separating adjacent springs.

21. The molded wood flake support as defined in claim 20 wherein said at least one channel is molded into said support and terminates in said frame section and a circular aperture is formed through said frame section at the junction of said channel and frame section.

22. The molded wood flake support as defined in claim 21 wherein said molded wood flake springs have a width of from about 2 inches to about 3 inches and said channel has a width of about ½ inch.

23. The molded wood flake support as defined in claim 22 wherein said circular aperture has a diameter of about ¾ inch.

24. The molded wood flake support as defined in claim 23 wherein said seating section includes a plurality of molded wood flake springs separated by a plurality of molded channels.

25. The molded wood flake support as defined in claim 16 wherein said wood flakes have an average length of from about 1.25 inches to about 6 inches, an average thickness of from about 0.005 inches to about 0.075 inches, and an average width from about 3.0 inches or less.
26. The molded wood flake support as defined in claim 25 wherein said wood flakes have an average length of from about 2 inches to about 3 inches.
27. The molded wood flake support as defined in claim 25 wherein said wood flakes have an average thickness of from about 0.015 inches to about 0.030 inches.
28. The molded wood flake support as defined in claim 25 wherein said wood flakes have an average width of from about 0.25 inches to about 1.0 inch and have a width less than the average length of said wood flakes.
29. The molded wood flake support as defined in claim 16 wherein said seating section includes a plurality of spaced-apart molded wood flake flexible springs integrally extending from said frame section.
30. The molded wood flake support as defined in claim 29 wherein said plurality of molded wood flake flexible springs are laterally adjacently disposed on said seating section.
31. The molded wood flake support as defined in claim 16 wherein said at least one molded wood flake flexible spring is defined by a U-shaped channel formed in said seating section.
32. The molded wood flake support as defined in claim 16 wherein said free end of said at least one molded wood flake flexible spring is disposed in spaced relationship to said frame section.

33. The molded wood flake support as defined in claim 16 wherein said seating article includes a back molded of binder coated wood flakes and wherein said back includes at least one molded wood flake flexible spring.

34. The molded wood flake support as defined in claim 33 wherein said back includes a seat facing side and said at least one molded wood flake flexible spring extends outwardly from said seat facing side of said back.

35. A molded wood flake support according to claim 16 wherein said support includes at least one channel disposed therein, said at least one channel defining said at least one molded wood flake flexible spring and said at least one channel is integrally molded within said support.

36. A molded wood flake support comprising:

a base including a plurality of spaced-apart molded wood flake flexible springs including free ends and joined ends integrally formed with said base, wherein said flexible springs can flex independently from said base; and  
an elastomeric mesh coupled to said springs.

37. The molded wood flake support as defined in claim 36 wherein said base and springs define a seat back.

38. The molded wood flake support as defined in claim 36 wherein said mesh is coupled to said free ends of said springs.

39. The molded wood flake support as defined in claim 38 wherein said mesh is formed in a sheath which extends around said free ends of said springs.

40. The molded wood flake support as defined in claim 36 wherein said wood flake springs are defined by a channel separating adjacent springs.

41. The molded wood flake support as defined in claim 40 wherein said at least one channel is molded into said support and terminates in said base section.

42. The molded wood flake support as defined in claim 41 wherein said molded wood flake springs have a width of from about 2 inches to about 3 inches and said channel has a width of about  $\frac{1}{2}$  inch.
43. The molded wood flake support as defined in claim 36 wherein said elastomeric mesh is an open mesh made of at least one of polyester and vinyl.
44. The molded wood flake support as defined in claim 43 wherein said wood flakes have an average length of from about 1.25 inches to about 6 inches, an average thickness of from about 0.005 inches to about 0.075 inches, and an average width from about 3.0 inches or less.
45. The molded wood flake support as defined in claim 44 wherein said wood flakes have an average length of from about 2 inches to about 3 inches.
46. The molded wood flake support as defined in claim 44 wherein said wood flakes have an average thickness of from about 0.015 inches to about 0.030 inches.
47. The molded wood flake support as defined in claim 44 wherein said wood flakes have an average width of from about 0.25 inches to about 1.0 inch and have a width less than the average length of said wood flakes.
48. A molded wood flake support comprising:  
a base including a pair of side members and a weight-bearing section molded of binder coated wood flakes, said weight-bearing section including a frame section and an integral weight-bearing area formed at an angle to said frame section, wherein said side sections are coupled to said frame section;  
said weight-bearing area including a plurality of spaced-apart molded wood flake flexible springs including free ends and joined ends integrally formed with said frame section, wherein said flexible springs can flex independently from said frame section;  
and



an elastomeric web coupled between said side members and extending under said molded wood flexible springs.

49. The molded wood flake support as defined in claim 48 wherein said wood flake springs are defined by at least one channel separating adjacent springs.

50. The molded wood flake support as defined in claim 49 wherein said at least one channel is molded into said support and terminates in said frame section and a circular aperture is formed through said frame section at the junction of said channel and frame section.

51. The molded wood flake support as defined in claim 50 wherein said molded wood flake springs have a width of about 2 inches and said channel has a width of about  $\frac{1}{2}$  inch.

52. The molded wood flake support as defined in claim 51 wherein said circular aperture has a diameter of about  $\frac{3}{4}$  inch.

53. The molded wood flake support as defined in claim 52 wherein said wood flakes have an average length of from about 1.25 inches to about 6 inches, an average thickness of from about 0.005 inches to about 0.075 inches, and an average width from about 3.0 inches or less.

54. The molded wood flake support as defined in claim 53 wherein said wood flakes have an average length of from about 2 inches to about 3 inches.

55. The molded wood flake support as defined in claim 53 wherein said wood flakes have an average thickness of from about 0.015 inches to about 0.030 inches.

56. The molded wood flake support as defined in claim 53 wherein said wood flakes have an average width of from about 0.25 inches to about 1.0 inch and have a width less than the average length of said wood flakes.

57. A molded wood flake article for a seating member said molded wood flake support comprising:

a support section molded of binder coated wood flakes including a plurality of spaced-apart molded wood flake flexible springs including free ends and joined ends integrally formed with said support section, wherein said flexible springs can flex independently from said support section;

a rigid panel mounted in spaced relationship to said support section; and

a foam pad extending between said rigid panel and said support section and coupled to said molded wood flake flexible springs for supplementing the spring resistance of said flexible molded wood flake springs.

58. The molded wood flake support as defined in claim 57 including a plurality of spaced-apart foam pads extending between said rigid panel and said support section.

59. The molded wood flake support as defined in claim 57 wherein said wood flake springs are defined by a channel separating adjacent springs.

60. The molded wood flake support as defined in claim 59 wherein said at least one channel is molded into said support and terminates in said frame section and a circular aperture is formed through said frame section at the junction of said channel and frame section.

61. The molded wood flake support as defined in claim 60 wherein said molded wood flake springs have a width of from about 2 inches to about 3 inches and said channel has a width of about  $\frac{1}{2}$  inch.

62. The molded wood flake support as defined in claim 61 wherein said circular aperture has a diameter of about  $\frac{3}{4}$  inch.

63. The molded wood flake support as defined in claim 62 wherein said wood flakes have an average length of from about 1.25 inches to about 6 inches, an average thickness of from about 0.005 inches to about 0.075 inches, and an average width from about 3.0 inches or less.



64. The molded wood flake support as defined in claim 63 wherein said wood flakes have an average length of from about 2 inches to about 3 inches.

65. The molded wood flake support as defined in claim 63 wherein said wood flakes have an average thickness of from about 0.015 inches to about 0.030 inches.

66. The molded wood flake support as defined in claim 63 wherein said wood flakes have an average width of from about 0.25 inches to about 1.0 inch and have a width less than the average length of said wood flakes.

67. A molded wood flake support for a seating article which at least partially supports a user seated thereon, said molded wood flake support comprising:

a base section molded of binder coated wood flakes, said base section including a frame section and an integral seating section formed at an angle to said frame section; and

said seating section including at least one molded wood flake flexible spring including a free end and a joined end integrally formed with said seating section, wherein said flexible spring can flex independently from said seating section, and wherein said molded wood flake flexible spring is tapered inwardly from said frame section toward said free end.

68. The molded wood flake support as defined in claim 67 wherein said seating section includes a plurality of spaced-apart tapered molded wood flake springs.

69. A molded wood flake support for a seating article which at least partially supports a user seated thereon, said molded wood flake support comprising:

a seat section molded of binder coated wood flakes, said seat section including a frame section and an integral seating area formed at an angle to said frame section, said seating area including at least one molded wood flake flexible spring including a free end and a joined end integrally formed with said frame section, wherein said flexible spring can flex independently from said frame section; and

wherein said flexible spring includes a longitudinal indentation extending into said frame section to stiffen said spring.

70. The molded wood flake support as defined in claim 69 wherein said seating area includes a plurality of spaced-apart molded wood flake springs.

71. The molded wood flake support as defined in claim 70 wherein said wood flake springs are defined by a channel separating adjacent springs.

72. The molded wood flake support as defined in claim 71 wherein said at least one channel is molded into said support and terminates in said frame section and a circular aperture is formed through said frame section at the junction of said channel and frame section.

73. The molded wood flake support as defined in claim 72 wherein said molded wood flake springs have a width of from about 2 inches to about 3 inches and said channel has a width of about  $\frac{1}{2}$  inch.

74. The molded wood flake support as defined in claim 73 wherein said circular aperture has a diameter of about  $\frac{3}{4}$  inch.

75. The molded wood flake support as defined in claim 69 wherein said wood flakes have an average length of from about 1.25 inches to about 6 inches, an average thickness of from about 0.005 inches to about 0.075 inches, and an average width from about 3.0 inches or less.

76. The molded wood flake support as defined in claim 75 wherein said wood flakes have an average length of from about 2 inches to about 3 inches.

77. The molded wood flake support as defined in claim 75 wherein said wood flakes have an average thickness of from about 0.015 inches to about 0.030 inches.

78. The molded wood flake support as defined in claim 75 wherein said wood flakes have an average width of from about 0.25 inches to about 1.0 inch and have a width less than the average length of said wood flakes.

79. A seating article comprising:

a seat adapted to support a user seated thereon and a back adapted to support the seated user in an upright position, at least one of said seat and said back at least partially molded from wood flakes; and

at least one of said seat and said back including at least one molded wood flake flexible spring which is narrower than a width of the seat or back in which said flexible spring is formed, said flexible spring including a free end and a joined end, said joined end being integrally formed with said at least one of said seat or said back, wherein said at least one flexible spring can flex independently of said seat or said back.

80. The seating article as defined in claim 79 wherein said seat and said back are integrally formed as a one-piece seating article made of molded wood flakes.

81. The seating article as defined in claim 80 wherein said seat and back each include at least one integrally formed molded wood flake spring.

82. A seating article comprising:

a seat adapted to support a user seated thereon and a back adapted to support the seated user in an upright position, at least one of said seat and said back molded from wood flakes; and

said at least one of said seat and said back which is molded from wood flakes includes at least one cantilevered spring integrally molded therein, said cantilevered spring including a free end and a joined end, said joined end being integrally molded with said at least one of said seat or said back, wherein said at least one flexible spring can flex independently of said seat or said back.

83. A method of molding a wood flake article including a flexible spring therein, comprising:

forming a loosely felted mat at least partially from wood flakes;

providing a press including an upper segment and a lower segment;

depositing said mat into said lower segment of a press;

providing one of said upper segment of said press or said lower segment of said press with a flexible spring forming extension which projects from said upper segment or said lower segment of said press;

providing the other of said upper segment or said lower segment of said press with a flexible spring forming cavity for receiving said flexible spring forming extension, said upper segment and said lower segment forming an article defining cavity therebetween;

compressing said mat between said upper segment and said lower segment, whereby said flexible spring forming extension presses said mat in contact with said flexible spring forming extension into said flexible spring forming cavity; and

heating said mat in said press, whereby said upper segment and said lower segment of said press form a support therebetween including a flexible spring defined by a perimeter which is formed by said flexible spring forming extension and said flexible spring forming cavity, said perimeter defining said flexible spring.

84. The method as defined in claim 83 wherein said forming a loosely felted mat step includes providing wood flakes with an average length of from about 1.25 inches to about 6 inches, an average thickness of from about 0.005 inches to about 0.075 inches, and an average width from about 3.0 inches or less.

85. The method as defined in claim 84 wherein said forming a loosely felted mat step includes providing wood flakes with an average length of from about 2 inches to about 3 inches.

86. The method as defined in claim 84 wherein said forming a loosely felted mat step includes providing wood flakes with an average thickness of from about 0.015 inches to about 0.030 inches.

87. The method as defined in claim 84 wherein said forming a loosely felted mat step includes providing wood flakes with an average width of from about 0.25 inches to about 1.0 inch, and never greater than the average length of said wood flakes.

88. A support comprising:  
a support member; and  
at least one longitudinally extending arcuately shaped molded wood flake flexible spring having a width which is narrower than the width of said support member, said flexible spring including a free end and a joined end, said joined end being affixed to said support, such that said flexible spring can flex independently from said support.
89. The support as defined in claim 88 wherein said support member is a fixed base to which a plurality of spaced-apart arcuate molded wood flake springs are secured at one end to extend upwardly and rearwardly over said base.
90. The support as defined in claim 89 wherein said support further includes a generally vertically extending panel secured to said base at an edge of said base opposite said joined end and said base.
91. The support as defined in claim 90 and further including a first foam member mounted to said panel in alignment with said free ends of said molded wood flake springs such that said free ends can engage said first foam member when a load is imposed on said molded wood flake springs.
92. The support as defined in claim 90 and further including a second foam member secured to said molded wood flake springs at a location between said joined ends and said free ends.
93. The support as defined in claim 92 wherein said support defines the back section of a couch.
94. The support as defined in claim 88 wherein said wood flakes have an average length of from about 1.25 inches to about 6 inches, an average thickness of from about 0.005 inches to about 0.075 inches, and an average width from about 3.0 inches or less.

95. The support as defined in claim 94 wherein said wood flakes have an average length of from about 2 inches to about 3 inches.

96. The support as defined in claim 94 wherein said wood flakes have an average thickness of from about 0.015 inches to about 0.030 inches.

97. The support as defined in claim 94 wherein said wood flakes have an average width of from about 0.25 inches to about 1.0 inch, and never greater than the average length of said wood flakes.

98. The support as defined in claim 93 wherein said wood flake springs are defined by a channel separating adjacent springs.

99. The support as defined in claim 98 wherein said molded wood flake spring have a width of from about 2 inches to about 3 inches and said channel has a width of about  $\frac{1}{2}$  inch.